

of the insect head may throw some light on it. For this reason, and also because it is the only case of the kind that has been noticed I have considered it worth while to describe it in detail.

EXPLANATION OF PLATE III.

(All figures drawn with camera lucida.)

Fig. 1. *Syrphus perplexus*, normal male, front view, stippled areas indicate color markings.

Fig. 2. *Syrphus perplexus*, side view. The dotted line indicates an area of enlarged eye facets.

Fig. 3. *Syrphus perplexus*, abnormal specimen, front view, showing the twisting of the head due to the suppression of the left eye, color markings indicated.

Fig. 4. *Syrphus perplexus*, side view. *G*, gena.

Fig. 5. *Syrphus perplexus*. Superior lateral view, more enlarged. *Fr*, frons; *Fa*, face; *Sa*, supernumerary antenna; *F*, fossa of supernumerary antenna; *V*, vertical triangle; *Sv*, supernumerary vertical triangle; *O*, occiput.

Fig. 6. *Syrphus perplexus*. Normal antenna, enlarged. *A*, arista.

Fig. 7. Normal vertical triangle, enlarged, showing arrangement of ocelli.



PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY.

MEETING OF TUESDAY, OCTOBER 19, 1909.

Held at the American Museum of Natural History. President C. A. Leng in the chair, with twenty-six members and eight visitors present.

The librarian, Mr. Schaeffer, reported the receipt of the following exchanges:

Memorias de Instituta Oswaldo Cruz, Brazil.

Wiener Entomologische Zeitung, XXVIII, Nos. 7 and 8.

Zeitschrift f. Wissenschaft. Insektenbiologie, V, no. 9.

Canadian Entomologist, XLI, No. 10.

Directions for Collecting and Preserving Insects by Nathan Banks, Bull. 67, U. S. National Museum.

The secretary reported that he had, as authorized at the last meeting, sent a letter to Dr. Bumpus thanking him and the Museum authorities for the ample provision which they had made for the meetings and work of the Society.

The president called upon Dr. Bumpus, who responded in a few words.

Dr. Lutz proposed as an active member Mr. Halsey J. Bagg, 611 W. 152d St., and Mr. Barber proposed Mr. C. V. Blackburn, of Stoneham, Mass.

On motion the by-laws were suspended and the secretary was instructed to cast a single affirmative ballot for the election of these members.

Mr. Davis read the amendments to the by-laws in reference to establishing the office of curator and moved their adoption. The motion was seconded and adopted.

On Mr. Davis' nomination, Dr. F. E. Lutz was appointed curator of the Entomological Collection.

The secretary presented the resignation of Mr. C. H. Sunderland. On request of Mr. Watson this was laid on the table by vote of the Society.

Dr. Zabriskie, in his remarks on *Bruchus discoideus*, stated that while collecting in July last summer at Cayuga Lake, N. Y., he swept a great number of these little weevils from golden rod blossoms and also from other flowers, but none was found on wild carrot. He had found the males to be scarce. He pointed out the differences between the antennæ of the two sexes. Various parts of the beetles were mounted on slides and exhibited under the microscope. Dr. Zabriskie explained his method of preparing and mounting this kind of material. He called attention to the apparent absence of coxæ, the peculiarity of the fourth joint of the tarsi, terminal spine on the antennæ, etc. He also exhibited a rare weevil, *Mesites subcylindricus*, the asparagus beetle (*Crioceris 12-punctatus*) and *Hylotrupes bajulus*, the beetle which did so much damage in the woodwork of a house at Moriches, L. I. Dr. Zabriskie also explained his method of making labels for his insect boxes. On question of Mr. Leng, Mr. Schaeffer said he thought Dr. Zabriskie had made a mistake about the absence of the coxæ in *Bruchus discoideus*.

Mr. Leng spoke on "Collecting in Northern Georgia," describing the region near Clayton in Rabun County, which he visited in June in company with Mr. Davis, Dr. Love and Mr. Charles Drury, of Cincinnati. Clayton stands at an elevation of 2,000 feet surrounded by a mountainous country with many ridges reaching 3,500 to 3,700 feet. The beetles collected by Mr. Davis were used to illustrate the remarks and exhibited a large percentage of species that would be found in New Jersey. About five per cent. were species known to inhabit the Gulf States; and about the same proportion were species peculiar to or specially abundant in the southern part of the Appalachian Range. Among these were *Cicindela unipunctata*, *Cychnus andrewsi*, *Cychnus bicarinatus*, *Nomaretus debilis*, *Pterostichus grandiceps*, *Dasycerus caroliniensis*, *Corymbites trivittatus*, *Michithysoma heterodoxum* and a new species of *Clerus*, called *jonteli* by Mr. Leng. A complete list of the species obtained will later be published in the Journal.

Mr. Wm. T. Davis exhibited a number of insects collected during the early part of July and described in the notes on "The Camp at Lakehurst, N. J.," published in the September number of the Journal. He also showed a cricket new to New Jersey, collected at Lakehurst on October 3, 1909, and stated that it appeared to be *Cycloptilum squamosum*, described by Scudder from Texas in 1868.

Mr. Joutel exhibited his collection of hybrid moths between male *Cynthia*

and female *Promethea*. He remarked that the full-grown larvæ and moths were different from the normal type of either parent—the female being more nearly normal than the male. The cocoons were also different.

Mr. Joutel also spoke very briefly concerning his investigations on white ants (*Termes flavipes*). Some of the colonies of these insects he had kept and observed for three years, but the conditions were not favorable and he had difficulty in securing the isolation of the colonies without their devouring each other. He had, however, got them to lay eggs and had to a certain extent observed the methods of feeding of the larvæ.

Prof. Wheeler spoke of the delay in the publication of the last number of the Journal and requested that more attention be paid to publishing material on the habits of insects, etc. He asked support for "Psyche," the organ of the Cambridge Entomological Club.

The Society adjourned.

MEETING OF TUESDAY, NOVEMBER 16, 1909.

Held at the American Museum of Natural History. President C. W. Leng in the chair, with twenty-two members and nine visitors present.

The librarian, Mr. Schaeffer, announced the publication of a new general catalogue of the Coleoptera of the world, in which the different families were treated by specialists. It is to be edited by S. Schenkling. He advised its purchase by the Society.

On motion of Mr. Angell the librarian was authorized to purchase the completed catalogue.

The curator, Dr. Lutz, reported that the local collection was being arranged as rapidly as possible by members of the Society, who had been meeting for that purpose at the Museum on alternate Sundays. Much material had also been added to the collection. The method of keeping a record catalogue of the species was explained. Dr. Lutz also stated that the Museum would soon publish a map of the region covered within the fifty mile limit.

Mr. Davis proposed as active members of the Society Mr. Silas Wheat, 987 Sterling Place, Brooklyn, N. Y., and Mr. Ernest Shoemaker, 6916 17th Ave., Brooklyn, N. Y.

Mr. Leng proposed Mr. John D. Sherman, 335 A. Decatur St., Brooklyn, N. Y.

On motion the by-laws were suspended and the secretary was instructed to cast a single ballot for the election of the three proposed members.

The secretary read a letter received from Dr. Bumpus acknowledging the action of the executive committee and assuring the Society of the appreciation by the trustees of the American Museum of Natural History of the important results which the coöperation of the Society promises.

Mr. Leng exhibited a number of old letters, many of them from noted entomologists, which had been turned over to the Society by Mr. Beutenmüller, and remarked that these should be preserved in a suitable way.

Dr. Southwick moved that the President appoint a committee of two to arrange for the care of these letters. The motion was carried and the President appointed Dr. Southwick and Mr. Davis.

Mr. George Frank read an account of "A Collecting Trip to Highland Lake, Sullivan Co., N. Y." He gave an interesting description of the character of the country, which made it an ideal spot for the collector, and mentioned in passing the species of Lepidoptera collected or observed by him on the trip.

Prof. John B. Smith, speaking on "The Geographical Distribution of Insects in New Jersey," remarked that the local map drawn on the black-board was a little too extended, as it took in certain sections not falling within the fifty-mile zone. He exhibited two maps of New Jersey, one a relief map on which he called attention to its chief features and the other showing in color the six faunal regions which he mentioned, namely, the Appalachian, in the extreme northwestern part, along the Delaware River; the Highlands region, just eastward of the former; the Piedmont Plain region, fitting in between the Highlands region and the coast, the region of red sandstone, high, hilly and rolling; the Delaware Valley region, south of the latter and running diagonally across the state, which is the richest entomologically and in which no part of the red shale occurs; the Maritime region, along the coast, and the Pine Barrens, occupying the greater part of southern New Jersey. This region is not so sharply marked as the former, since there are scattered islands of pine barren in the Delaware River region, at Jamesburg and on Staten Island. He referred to the significant fact that in these various faunal regions certain insects differ in the number of broods. Thus the elm-leaf beetle has only one brood in the Piedmont Plain region, while it is two-brooded in the Delaware Valley district. The codling moth is two-brooded in the Delaware Valley and Pine Barren regions, and usually single-brooded in the others, with an occasional fragmentary second brood due to seasonal or local difference. He remarked that no strictly boreal species of insects occurred in the northern highlands of the state, which had an elevation up to 2,000 feet, but in the cold swamps of the pine barrens a few boreal forms had been found. He thought the maps would be helpful as some portion of each one of the faunal regions came within the fifty-mile zone of New York City. Dr. Smith presented the maps to the Society with the prediction that at least 15,000 species of insects would be found to occur within the prescribed limits.

On motion of Dr. Southwick the Society accepted the maps with thanks to Prof. Smith.

Mr. Leng asked if *Trechus chalybaeus*, a boreal species, had not been taken in the cold swamps of the pine barrens. Prof. Smith stated that it had been found near Milltown and South River in the roots of grasses along the water courses.

Mr. Davis referred to a boreal mouse and a boreal snake occurring in the cold swamps of southern New Jersey.

Dr. Alexander Petrunkevitch gave an interesting account of "A Collecting Trip to Southern Mexico," and exhibited a large collection of spiders and insects preserved in alcohol. He spoke briefly on the itinerary of his trip. He sailed from New York early in July and reached Vera Cruz on the ninth, having stopped at Havana *en route*. He also explained his method of packing vials of material between pieces of cardboard to prevent their breaking while on shipment. Two days were spent about Vera Cruz, but as the hills were bare and the vegetation sparse, collecting was poor. Thence he proceeded by railroad to the isthmus of Tehuantepec where he encountered the rich tropical forests of the low-lands of Mexico. Here he stopped ten days at the plantation of Mr. Harvey in the midst of a typical Mexican jungle. It rained a great deal, so that collecting was often done under disadvantages, but he found the fauna extremely rich. He employed various methods of collecting, such as sweeping, digging in bark and leaves and sifting. He mentioned the characteristic kinds of spiders occurring in this region and spoke briefly of their habits. Among those named were the tarantulas, trap-door and jumping spiders, but there was a surprising absence of orb-weaving species, possibly owing to its being the wrong season of the year. From this point he went across the isthmus and a little lower down to a dryer, more gravelly country, with no tropical forests and no jungles—more of a desert in which cactus and mesquite predominated. Here insect life, in spite of the desert-like character of the country, was quite plentiful. Proceeding still further south, he collected a few days near the Guatemalan border, in a low, flat, jungle country, but torrential rains interfered with his operations and ruined the railroad for a considerable distance. Here he took horses to get through the jungle, but everything was so soaking wet that few specimens could be obtained. He mentioned the characteristic insects which he saw at various points on his trip, and remarked that all entomological collecting was merely incidental, as he was primarily after spiders. Among other things he spoke of witnessing the migration of millions of butterflies, the copulation of nymphal locusts, the great number of beautiful *Morphos*, the swarming of the centipedes and scorpions in the thatched roofs, the work of the army-ant (*Eciton*) in clearing these out, the great abundance of mosquitoes, which often pestered him, the almost entire absence of snakes (he having seen only five specimens), the color differences between the jungle and desert forms, etc.

On question of Mr. Leng, Dr. Petrunkevitch described a typical jungle and spoke of its deathly stillness, owing to the absence of life. In closing he stated that arrangements would be made through Dr. Lutz for the members to study and determine the material.

The Society adjourned.

H. G. BARBER,
Secretary.